

REPORT ON MACHINERY.

18029

No. 844
 In Survey held at Sunderland Date, first Survey April 1st/82 Last Survey Feb 9th 1883
 Reg. Book. S.S. Abington on the S.S. Abington (Received at London Office 19th FEB 83)
 Master M. Cotter Built at Sunderland When built 1882
 Engines made at Sunderland By whom made Jm Doreford & Sons when made 1882
 Boilers made at Sunderland By whom made Jm Doreford & Sons when made 1882
 Registered Horse Power 200 Owners Renton & Co Port belonging to Glasgow
 Tons 2053.07
 1332

ENGINES, &c.—
 Description of Engines Vertical, Compound, surface condensing, direct acting.
 Diameter of Cylinders 34" & 68" Length of Stroke 45" No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 11 3/4" Diameter of Tunnel shaft 11 1/4" Diameter of Crank shaft journals 11 3/4" Diameter of Crank pin 11 3/4" size of Crank webs 13 1/2" x 8 1/4"
 Diameter of screw 15-10" Pitch of screw 1 1/4-6" No. of blades 4 state whether moveable yes total surface 40 sq ft
 No. of Feed pumps 2 diameter of ditto 3 3/4" Stroke 28" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 3 3/4" Stroke 28" Can one be overhauled while the other is at work yes
 Where do they pump from Fore tanks, engine room, after tanks and after wells
 No. of Donkey Engines 2 Size of Pumps 4x8" Where do they pump from Fore tanks, engine room
after tanks, after wells, sea and condenser
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections one and sizes 4" Are they connected to condenser, or to circulating pump Circulating pump
 How are the pumps worked By levers on after engine
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the discharge pipes above or below the deep water line above
 Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate yes
 What pipes are carried through the bunkers none How are they protected —
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform of engine room

OILERS, &c.—
 Number of Boilers One Description Cylindrical, multitubular, double ended.
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 19-12-82
 Description of superheating apparatus or steam chest Horizontal dome
 Can each boiler be worked separately one boiler Can the superheater be shut off and the boiler worked separately No superheater
 No. of square feet of fire grate surface in each boiler 90.148 sq ft Description of safety valves Direct spring valves
 No. to each boiler 2 area of each valve 23.46 sq Are they fitted with easing gear yes
 No. of safety valves to superheater — area of each valve — are they fitted with easing gear —
 Smallest distance between boilers and bunkers or woodwork 3 feet
 Diameter of boilers 13-9" Length of boilers 14-0" description of riveting of shell long. seams treble lap circum. seams Double lap
 Thickness of shell plates 25/32" diameter of rivet holes 1 1/16" whether punched or drilled drilled pitch of rivets 3-885"
 Lap of plating 4" per centage of strength of longitudinal joint 42.6 R 48.8 working pressure of shell by rules 82.5
 Size of manholes in shell 16x12" size of compensating rings 4x1"
 No. of Furnaces in each boiler 6 outside diameter 3-1" length, top 6-6" bottom 5-4"
 Thickness of plates 1/2" description of joint Double butt straps rings are fitted yes greatest length between rings 5-4"
 Working pressure of furnace by the rules 105 lbs
 Combustion chamber plating, thickness, sides 1/2" back tube plate top 1/2"
 Pitch of stays to ditto sides 8x9 1/4" back tube plate top 9 1/4 x 9 1/4"
 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 90 lbs
 Diameter of stays at smallest part 2 1/4" working pressure of ditto by rules 99 lbs
 End plates in steam space, thickness 1 1/2" pitch of stays to ditto 18 x 15 1/2" how stays are secured double nuts
 Working pressure by rules 85 diameter of stays at smallest part 2 1/4" working pressure by rules 85 lbs
 Front plates at bottom, thickness 3/4" Back plates, thickness none greatest pitch of stays — working pressure by rules —

Diameter of tubes $3\frac{1}{4}$ " pitch of tubes $4\frac{1}{2}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
 How stayed *stay tubes* pitch of stays 9×9 " width of water spaces $1\frac{1}{4}$ " 5 "
 Diameter of ~~Superheater or~~ Steam chest $3-6$ " length $9-6$ "
 Thickness of plates $\frac{1}{16}$ " description of longitudinal joint *lap double* diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{3}{4}$ "
 Working pressure of shell by rules 163 lbs Diameter of flue --- thickness of plates ---
 If stiffened with rings --- distance between rings --- Working pressure by rules ---
 End plates of ~~superheater or~~ steam chest; thickness $5\frac{1}{8}$ " How stayed *four stays 2" diam*
~~Superheater or~~ steam chest; how connected to boiler *By a flanged neck $18 \times 14 \times \frac{3}{4}$*
DONKEY BOILER— Description *Vertical with 3 cross tubes*
 Made at *Sunderland* By whom made *Messrs Welford Bros* when made *Tested 2-12-82*
 Where fixed *Stokehold* working pressure 60 Tested by hydraulic pressure to 120 No. of Certificate 586
 Fire grate area $21\frac{1}{2}$ sq ft Description of safety valves *Spring* No. of safety valves 2 area of each $4-07$
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $6-0$ " length $12-0$ " description of riveting *Longitudinal seams double riveted*
 thickness of shell plates $\frac{3}{8}$ " diameter of rivet holes $\frac{3}{4}$ " whether punched or drilled *punched*
 pitch of rivets 3 " lap of plating $3\frac{3}{4}$ " per centage of strength of joint $\frac{45}{100}$
 thickness of crown plates $\frac{1}{16}$ " stayed by *five stays $1\frac{1}{2}$ " diam, uptake & dished to a radius of $5-0$*
 Diameter of furnace, top $5-0$ " bottom $5-6$ " length of furnace $4-11\frac{1}{2}$ "
 thickness of plates $\frac{1}{2}$ " description of joint *lap single riveted*
 thickness of furnace crown plates $\frac{1}{16}$ " stayed by *five stays $1\frac{1}{2}$ " diam, uptake & dished to a radius of*
 Working pressure of shell by rules 60 lbs working pressure of furnace by rules 64 lbs
 diameter of uptake 15 " thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{1}{16}$ "

The foregoing is a correct description,
William Dimples Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)
*The machinery of this vessel has been constructed under special survey
 the workmanship and material are good and efficient and the engine
 when tried under steam found satisfactory. In my opinion the machinery
 of this vessel is eligible for the notification of Lloyd's M.C. 2.83*

*It is submitted that this
 vessel is eligible to have the
 notification + ton & 2.82
 recorded.
 W.D. 19/2/83*

The amount of Entry Fee .. £ $3:0:0$ received by me,
 Special .. £ $30:0:0$
 Certificate (if required) .. £ --- 16 Feb 1883
 To be sent as per margin. $£33-0-0$
 (Travelling Expenses, if any, £ ---)

Committee's Minute Tuesday, 20th February 1883.

Wm Salmon
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping